DOCUMENT RESUME

ED 210 032 IR 009 842

AUTHOR Herman, Kenneth
TITLE The Psychologist and the Computer.
PUB DATE 81
NOTE 13p.; Paper presented at the Annual Meeting of the American Psychological Association (Los Angeles, CA, 1981).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Clinical Diagnosis; *Computer Assisted Testing; Cost Effectiveness; *Diagnostic Tests; *Mental Health Programs; Patients; Psychological Services; *Psychological Testing; Psychologists; Therapists

ABSTRACT

This discussion of an online, in-house computer system used in a group clinical psychology practice describes the development of a program designed to offer cost-effective testing services for patients of mental health professionals. The report provides detailed information on two psychological testing inventories rendered via computer. The first is a Sexual Adjustment Inventory, which enables therapists to survey an individual's sexual adjustment; the second is a Self Discovery Program which utilizes the computer to administer pre- and post-session tests to document behavioral and emotional changes exhibited by course participants. An outline of other available tests is provided, including a Stress Anxiety Scan, an Assertive Scale, a Fear Inventory, a Dissimilation Index, an Index of Somatic Problems, a Beck Depression and Hopelessness Scan, a Social History Scan, a Symptom Checklist, a Minnesota Multiphasic Personality Inventory, an Intellectual Screening Battery, and a Career Assessment Survey. Tests projected for future marketing are a Personality Inventory for Children, a Porschach Interpretation, and a Visual Searching Task for diagnosing neurologically impaired patients. (MER)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED2100032

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
  Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

THE PSYCHOLOGIST AND THE COMPUTER

by

Kenneth Herman

IR009842

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
Kenneth Herman

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

COMPUTERS

BY KENNETH HERMAN, ED.D.

THE PSYCHOLOGIST AND THE COMPUTER

IN COMPARISON TO OTHER PROFESSIONS, THE PRACTICAL APPLICATION OF THE COMPUTER SCIENCES TO PSYCHOLOGY IS STILL IN ITS INFANCY. THERE HAS BEEN CONSIDERABLE INTEREST AND RESEARCH INTO FUTURE USES OF THE COMPUTER IN THE MENTAL HEALTH SCIENCES. HOWEVER, IN ACTUALITY, LITTLE PRACTICAL APPLICATION HAS BEEN EVIDENCED, LARGELY DUE TO COST FACTORS AND THE GENERAL LACK OF FAMILIARITY OF COMPUTER TECHNOLOGY BY PSYCHOLOGISTS.

WHILE CLINICAL PSYCHOLOGISTS OFTEN USE PERSONALITY OR VOCATIONAL INTEREST TESTS PROCESSED BY A COMPUTER SCORING SERVICE, IT IS RARE TO FIND PSYCHOLOGISTS WITH FACILITIES TO DO THEIR OWN AUTOMATED PSYCHOLOGICAL TESTING. IN FACT, THE PATIENT VOLUME OF MOST INDIVIDUAL PRACTITIONERS DOES NOT WARRANT THE EXPENSE OF AN ON-SITE COMPUTER. WHEN TECHNOLOGY PROGRESSES, HOWEVER, AND COST / PERFORMANCE RATIOS IMPROVE, IT MAY ULTIMATELY BECOME FINANCIALLY VIABLE.

THE PURPOSE OF THIS PAPER IS TO DEMONSTRATE HOW AN ON-LINE, IN-HOUSE COMPUTER SYSTEM CAN BE OF USE TO A GROUP CLINICAL PSYCHOLOGY PRACTICE. WE WILL DESCRIBE THE DEVELOPMENT OF AN EXISTING PROGRAM FROM ITS INCEPTION, AND PROJECT FUTURE PLANS FOR OUR COMPUTER SERVICE.

THE RATIONALE FOR INVESTING THE TIME, MONEY AND ENERGY INTO A COMPUTER TESTING SERVICE CAME FROM A REALIZATION THAT COMPUTERS ARE HERE TO STAY. WHILE CURRENTLY PLAYING A SIGNIFICANT ROLE IN MEDICINE, INDUSTRY AND BUSINESS, THEY HAVE NOT BEEN UTILIZED EXTENSIVELY IN THE FIELD OF APPLIED PSYCHOLOGY. IT IS OUR INTENTION TO OFFER A COST-EFFECTIVE TESTING PROGRAM FOR OUR OWN PATIENT POPULATION, AS WELL AS THE PATIENTS OF OTHER MENTAL HEALTH PROFESSIONALS WHO WILL BE INVITED TO REFER PATIENTS TO OUR PSYCHODIAGNOSTIC TESTING LABORATORY. THERE ARE ADDITIONAL ADVANTAGES TO HAVING AN ON-SITE COMPUTER. ASIDE FROM THE VARIOUS BOOKKEEPING FUNCTIONS, IT PROVIDES A SYSTEMIZED WAY OF ORGANIZING AND COLLECTING OUTCOME DATA AND PERMITS US TO DETERMINE THE PROGRESS OF THERAPY BY MULTIPLE TESTING DURING THE COURSE OF TREATMENT. IT IS ANTICIPATED THAT THE COMPUTER PRINTOUTS MIGHT REVEAL SUBTLE CHANGES IN BEHAVIOR AND AFFECT, NOT EASILY DETECTED BY SUBJECTIVE MEASURES. BECAUSE THE PROGRAM IS IN ITS INFANCY, IT IS DIFFICULT TO ASSESS THIS FACTOR AT PRESENT.

THE SYSTEM WE HAVE IN OPERATION PERMITS US A GREAT DEAL OF FLEXIBILITY IN THE ADMINISTRATION AND INTERPRETATION OF PSYCHOLOGICAL TESTS. THROUGH THE USE

OF THE SYSTEM, WE ARE ABLE TO PLACE AN OBJECTIVE ASSESSMENT IN THE HANDS OF THE SKILLED CLINICIAN. IT OFFERS THE REFERRING CLINICIAN ANOTHER AVENUE OF ACCOUNTABILITY FOR SETTING THERAPEUTIC GOALS AND ASSESSING THE EFFECT OF THERAPEUTIC INTERVENTION. THE SYSTEM ALSO ALLOWS FOR A FASTER METHOD OF PRODUCING PSYCHOLOGICAL DATA FOR REPORT WRITING, AND THEREFORE PROVIDES THE CLINICIAN WITH DOCUMENTARY EVIDENCE OF THE PATIENT'S CONDITION FOR PROFESSIONAL, LEGAL AND INSURANCE MATTERS. IT WAS ADDITIONALLY FELT THAT HAVING AN ON-SITE COMPUTER PROGRAM WOULD ENABLE US TO REACH A GREATER POPULATION, AND THEREFORE EXTEND THE ARM OF THE PRIVATE PRACTITIONER'S OPPORTUNITY FOR GREATER PRODUCTIVITY AND REVENUE.

PSYCOM™, THE PSYCHODIAGNOSTIC LABORATORY FOR THE MENTAL HEALTH PROFESSION, IS A DIVISION OF THE PSYCHOLOGICAL SERVICE CENTER, WHICH WAS FOUNDED IN 1955.

THE CENTER OFFERS THE GAMUT OF DIAGNOSTIC AND TREATMENT SERVICES TO THE GENERAL PUBLIC. IN ADDITION, THERE ARE TWO OTHER DIVISIONS; THE CENTER FOR SEXUAL AND RELATIONSHIP ENRICHMENT, WHICH PROVIDES SEX AND MARITAL THERAPY FOR INDIVIDUALS AND COUPLES AND PROVIDES SEMINARS FOR THE PUBLIC AND PROFESSIONALS IN THE AREA OF HUMAN SEXUALITY. A SEXUAL ADJUSTMENT INVENTORY, ADMINISTERED

VIA THE COMPUTER, ENABLES US TO SURVEY AN INDIVIDUAL'S SEXUAL ADJUSTMENT WITH FAR GREATER OBJECTIVITY THAN IF THE QUESTIONS HAD BEEN ASKED BY THE THERAPIST. ADDITIONALLY, WE SPECIALIZE IN MAKING A DIFFERENTIAL DIAGNOSES WITH MALES, EXPERIENCING ERECTILE INCAPACITY. WORKING IN CONJUNCTION WITH A UROLOGIST, WHO PERFORMS THE SCOTT INFLATIBLE PENILE PROSTHESIS PROCEDURE, WE ADMINISTER A BATTERY OF TESTS TO HELP DETERMINE WHETHER OR NOT THIS OPERATION IS INDICATED. OUR FACILITY IS ONE OF THE FEW CENTERS OFFERING THIS SERVICE. PART OF OUR EVALUATION INCLUDES THE ADMINISTRATION OF THE NOCTURNAL PENILE TUMESCENCE MONITOR.

THE SECOND DIVISION, IS THE SECOND SELF DISCOVERY PROGRAM. THIS IS AN EDUCATIONAL COURSE, DESIGNED TO REACH A POPULATION CURIOUS ABOUT EMOTIONAL CHANGE, BUT NOT FEELING THE NEED FOR ONE-TO-ONE THERAPEUTIC CONTACT. THE SEMINAR, WHICH HAS RECEIVED A GOOD DEAL OF PUBLICITY, CONSISTS OF TWELVE, THREE-HOUR SESSIONS.

THE SECOND SELF DISCOVERY PROGRAM UTILIZES THE COMPUTER SYSTEM BY ADMINISTERING PRE- AND POST- SESSION TESTS TO DOCUMENT BEHAVIORAL AND EMOTIONAL CHANGES

EXHIBITED BY COURSE PARTICIPANTS. LET US FOCUS ON PSYCOM™ ITSELF.

A COMPUTER TESTING PROGRAM REQUIRES ATTENTION TO THREE DISTINCT AREAS OF CONCERN: PHYSICAL LOCATION, HARDWARE (THE COMPUTER EQUIPMENT) AND THE SOFTWARE, WHICH IS THE ACTUAL PROGRAM THAT INSTRUCTS THE MACHINE WHAT TO DO.

PSYCOM IS LOCATED WITHIN THE PSYCHOLOGICAL SERVICE CENTER, AND CURRENTLY OCCUPIES TWO ROOMS. THE FIRST IS A COMPUTER ROOM, WHICH CONSISTS OF THE DIGITAL PDP-11 CENTRAL PROCESSOR. THIS IS A SIXTEEN BIT MACHINE WITH AN UPDATED CPU WHICH OPERATES AT VERY HIGH SPEED. THERE ARE TWO HARD DISC DRIVES, USING THE RL-01 DATA CARTRIDGE FORMAT, EACH WITH 5.2 MEGABITES OF STORAGE. THESE HARD DISCS ARE BACKED UP BY TWO DIGITAL RX-01 FLOPPY DISCS. A HAZELTINE 1500 MODEL VIDEO TERMINAL IS THE MAIN PROGRAMMING AND SET UP TERMINAL. INFORMATION IS PRINTED ON A TEXAS INSTRUMENTS OMNI-800 PRINTER. THE TEST TERMINALS CONSIST OF THREE LEAR-SEIGLER ADM-100 TERMINALS. A DIGITAL EQUIPMENT CORPORATION MODUM WHICH PERMITS FUTURE EXPANSION, WILL ALLOW US TO SET UP REMOTE

TERMINALS AND CONNECTING THEM TO THE COMPUTER, VIA A TELEPHONE LINE. THE PSYCOM™ SYSTEM OPERATES IN "MULTI-USER BASIC". THE SYSTEM HAS A MAXIMUM CAPACITY OF HANDING EIGHT (8) INDEPENDENT TESTING OPERATIONS. OUR DIRECTOR OF OPERATIONS IS A SKILLED COMPUTER PROGRAMMER WITH A BACKGROUND IN PSYCHOLOGY. OUR OFFICE STAFF HAS BEEN TRAINED TO OPERATE THE EQUIPMENT AND TO ASSIST A PATIENT FROM INITIAL CONTACT THROUGH THE TESTING PROCEDURE.

ADDITIONALLY, OUR COMPUTER SYSTEM IS USED FOR BILLING AND SERVES AS THE CENTRAL OFFICE COMPUTER FOR DIVISION 42: PSYCHOLOGISTS IN INDEPENDENT PRACTICE. IT'S OVER 4,900 MEMBERS ARE KEPT ON A SEPARATE DATA FILE. ALSO, WE HAVE DEVELOPED OUR OWN MAILING LISTS FOR PUBLICITY PURPOSES. THE CURRENT VALUE OF OUR HARDWARE INVESTMENT IS IN EXCESS OF $25,000.00. IT WAS DECIDED TO PURCHASE, RATHER THAN TO LEASE, THE EQUIPMENT. THERE IS A MONTHLY SERVICE CONTRACT WITH THE DIGITAL EQUIPMENT CORPORATION WHICH COVERS THE BULK OF THE EQUIPMENT.

CHOOSING SOFTWARE WAS A MAJOR CONSIDERATION. AFTER INVESTIGATING MANY SOURCES, WE ARRANGED TO LEASE SOFTWARE FROM PSYCHSYSTEMS. THEIR SOFTWARE IS COMPATIBLE WITH OUR COMPUTER SYSTEM AND THEIR ON-GOING PROGRAM OF

REVISION, MODIFICATION AND EXPANSION WAS IN KEEPING WITH OUR PROGRESSIVE OBJECTIVES.

THE BASIC PSYCOM BATTERY CONSISTS OF A COMPILATION OF PSYCHSYSTEMS TESTS, AS WELL AS FOUR TESTS DEVELOPED AT THE PSYCHOLOGICAL SERVICE CENTER: THE SEXUAL ADJUSTMENT INVENTORY, DEVELOPED WITHIN OUR CENTER FOR SEXUAL AND RELATIONSHIP ENRICHMENT DIVISION; THE STRESS SCAN, DESIGNED TO ESTIMATE A PATIENT'S CURRENT LEVAL OF ANXIETY; AND ASSERTIVE SCALE, WHICH PRESENTS THE PATIENT WITH A WIDE RANGE OF SITUATIONS REQUIRING SELF-CONFIDENT BEHAVIOR; AND A FEAR INVENTORY, USEFUL TO DETERMINE ANXIETY-PRODUCING OBJECTS, EVENTS AND SITUATIONS. THESE TESTS ARE INCLUDED ALONG WITH THE FOLLOWING PSYCHSYSTEMS TESTS:

A DISSIMILATION INDEX, ADMINISTERED PRIOR TO OTHER TESTS TO DETERMINE IF THE INDIVIDUAL IS COMPATIBLE WITH ON-LINE TESTING;

AN INDEX OF SOMATIC PROBLEMS, WHICH SUMMARIZES A PATIENT'S HEALTH STATUS;

A BECK DEPRESSION & HOPELESSNESS SCAN, WHICH PROVIDES A QUICK DEPRESSION SCREENING;

A SOCIAL HISTORY, WHICH PROVIDES INFORMATION ABOUT AN INDIVIDUAL'S GENETIC AND DEVELOPMENTAL HISTORY;

A SYMPTOM CHECKLIST 90, A MULTI-DIMENSIONAL SELF-REPORT INVENTORY;

A MINNESOTA MULTIPHASIC PERSONALITY INVENTORY, AND AN

INTELLECTUAL SCREENING BATTERY, USING THE SHIPLEY-HARTFORD VERBAL AND ABSTRACT SUBSECTIONS.

RECENTLY ADDED BY PSYCHSYSTEMS, BUT NOT PART OF OUR TEST BATTERY, BUT OFFERED SEPARATELY, IS A

CAREER ASSESSMENT SURVEY. WE ARE OFFERING THIS AS A SEPARATE PACKAGE.

THE PERSONALITY INVENTORY FOR CHILDREN WILL BE OFFERED IN THE NEAR FUTURE TO INDIVIDUALS WORKING WITH CHILDREN. SOON TO BE AVAILABLE FROM PSYCHSYSTEMS, AND THEREBY FROM PSYCOM, IS A RORSCHACH INTERPRETATION, BASED ON THE METHOD DEVELOPED BY JOHN EXNER, AND A VISUAL SEARCHING TASK, BASED ON THE STUDIES OF GOLDSTEIN ET AL. WHICH OFFERS INFORMATION USEFUL IN DIAGNOSING NEUROLOGICALLY IMPAIRED PATIENTS.

PROFESSIONALS ARE OFTEN CRITICIZED FOR NOT BEING

THE BEST BUSINESS PEOPLE. ACCEPT IT OR NOT, A SUBSTANTIAL OUTLAY OF MONEY SUCH AS WE HAVE DESCRIBED, NECESSITATES A BUSINESS APPROACH TO MARKETING THE PROGRAM.

PSYCHOLOGISTS AS A RULE, DO NOT HAVE TO BE CONVINCED AS TO THE USEFULNESS OF TESTING. BUT OTHER MENTAL HEALTH PROFESSIONALS, EMPLOYEE BENEFIT PROGRAMS, BUSINESS AND INDUSTRY, MAY HAVE TO. TO THAT END, WE HAVE DEVELOPED A BROCHURE WHICH DESCRIBES OUR TESTING SERVICES. WHILE VERY EXPENSIVE TO PRODUCE, WE WANTED TO PORTRAY A FIRST CLASS IMAGE. OUR CURRENT MARKETING STRATEGIES GO BEYOND SOLICITING PATIENTS FROM PRIVATE PRACTITIONERS. WE ARE IN THE PROCESS OF INFORMING MENTAL HEALTH CENTERS, HOSPITALS, BUSINESS AND INDUSTRY ABOUT PSYCOM'S DIAGNOSTIC SERVICES. WE ARE SHOWING HOW THE RESULTS OF THIS TESTING CAN BE USED TO STREAMLINE OPERATING COSTS, HELP IN DIFFERENTIAL DIAGNOSIS, INCREASE PRODUCTIVITY AND REDUCE ABSENTEEISM. IT IS THESE MASS MARKETS THAT WE FEEL ULTIMATELY WILL UTILIZE PSYCHOLOGICAL SERVICES IN WAYS THAT HAVE BEEN EMPLOYED TO ONLY A LIMITED EXTENT.

WE LOOK UPON THE COMPUTER TEST RESULTS AS A PART OF THE TOTAL ARMAMENTARIUM, USED TO MAKE SENSE OF WHAT IS HAPPENING TO A PATIENT. THE PATIENT USUALLY

VIEWS THE COMPUTER EXPERIENCE AS PLEASANT AND INTRIGUING. OFTEN, THEY ATTRIBUTE LIFE-LIKE CHARACTERISTICS TO THE COMPUTER, MAKING SUCH COMMENTS AS "THE COMPUTER IS SMART".

WE REALIZE THE COMPUTER DATA, LIKE ANY OTHER DATA, CAN BE FAULTY. PATIENTS CAN BE CARELESS AS THEY TAKE THE TEST AND ELECTRONIC PROBLEMS CAN EFFECT THE RESULTS. HOWEVER, OUR EXPERIENCE INDICATES, AND WE STRONGLY FEEL, THAT THE ADVANTAGES OF THIS SYSTEM FAR OUTWEIGH ITS DISADVANTAGES AND THAT PSYCHOLOGISTS WILL BE ABLE TO FIND THE DATA MEANINGFUL DESPITE PERIODIC ERRORS AND INCONSISTENCIES.

THE GENERAL REACTION FROM CLINICIANS UTILIZING THE PSYCOM DATA IS THAT THE COMPUTER TEST REPORTS GIVE THEM INFORMATION WHICH IS HELPFUL FROM A DIAGNOSTIC AND PROGNOSTIC POINT OF VIEW. IT ALSO PROVIDES CONSIDERABLE INFORMATION THAT CAN DIRECTLY BE EXPLORED WITH THE PATIENTS. WE HAVE FOUND FROM OUR OWN PATIENTS THAT THEY ARE EXTREMELY INTERESTED TO KNOW WHAT THE COMPUTER SAYS. IT APPEARS THAT THE COMPUTER TESTING PROGRAM INCREASES THE PATIENT'S MOTIVATION TO LEARN ABOUT THEMSELVES AND STIMULATES THEIR INTEREST IN THERAPY.

WE HAVE SEEN PHENOMENAL GROWTH IN THE FIELD OF PSYCHOLOGY IN THE LAST DECADES. IDEAS CENTERED AROUND OUR DIAGNOSTIC TREATMENT METHODOLOGIES HAVE BECOME MORE SOLIDIFIED IN OUR MIND. PSYCHOLOGY HAS INDEED BECOME PROGRESSIVELY MORE OF SCIENCE AS WE HAVE STRUGGLED TO UNDERSTAND AND CHANGE BEHAVIOR.

THERE APPEARS TO BE VERY STRONG EVIDENCE THAT THE UTILIZATION OF COMPUTER TECHNOLOGY WILL HAVE A SIGNIFICANT INFLUENCE ON THE ENTIRE FIELD OF PSYCHOLOGY.